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HOGARTH AND HIS WORKS.—No. VIII.

THE POLITICIAN.

THIS piece of exquisite humour is said to have been suggested to Hogarth by a living and well-known character in his day—a Mr. Tibson, laceman in the Strand, who preferred politics to trade, and the 'Gazetteer' newspaper to ledger and day-book. Never was a ruling passion,—an intentness on a favourite subject,—more happily pourtrayed than in the print before us. The mere position or seat of the old Quidnunc tells a story! From the way in which he has squared himself in his chair, you may see he is a

man determined not to budge until he has conned his dear paper through, to the last line, word, and syllable. His short stout legs, with their broad bases of high-quartered shoes, are set down on the floor like pillars! It would require a dray-horse to drag him from his occupation!

To throw a full clear light on his sheet (the only sheet, we may be sure, he ever reads), he has taken his tallow candle from its socket, and, indifferent to the abomination of grease, holds it in his right hand, whilst his left hand grasps his journal,—the Benjamin of his heart. The ascending flame has set fire to his hat,—has literally burnt a hole through its broad brim. The candle is also fearfully burnt down and has guttered;—the red-hot wick and the base of the flame are within the eighth of an inch of his fingers and it is difficult to say which part of him will be burnt first, his forehead, his nose, or his unflinching hand. But what of that! He is rapt, and altogether unconscious of his danger, and on he will read until the fire reaches him. Look at his countenance the while!—with its deep lines of thought, and the half acute and half solemn compression of his lips! There is many a siege and blockade in the dropping corner of that mouth, and a campaign or a treaty in every wrinkle of that face!

In the days of Hogarth, newspapers dealt only in news, and most delighted in "wars and rumours of wars." They had no idea of the step made in our times, when a single editor boasts that he directs the opinions of three-fourths of his countrymen, (poor countrymen!) and thinks it a merit to raise up an idol one day to throw it down in the dirt (if he can) the next.

Thanks to the introduction of narrow-brimmed hats, there is now no danger of our Quidnuncs setting fire to their beavers. Their heads, indeed, are sometimes affected and heated more directly by flaming leading articles and paragraphs; but the heat is all inwards. There are political occasions on which the people have to think and to act, as far as they can act legally; but the only way to think and to act rightly is to be cool, and not set their hats or their heads on fire.

Human Sacrifices in Otaheite.—It is well known that the horrid custom of human sacrifice was practised to a large extent in Otaheite when the Missionaries first arrived in the island, although it was by no means a rite of an old date. Those men were generally selected who had few friends, or who happened to have incurred the dislike of the priests. They were often marked out long before such an offering was required, and were then called "Ta-ata Taboo," that is, a man devoted to the deity: so far, however, from aspiring to this honour, if the victim suspected that it was about to be conferred on him, he generally endeavoured to escape from the neighbourhood. But if so unfortunate as to have his refuge discovered, or else to have remained without suspicion of his danger, his place of rest was noted, and "the labourers of the temple" were sent in the night to dispatch him and bring his corpse to the Morai. No such person was ever known to have been assisted in defending himself against his murderers.—*MS. Journal of a Voyage.*

MINERAL KINGDOM.—SECTION XXVI.

COPPER.

THIS metal was one of the earliest with which man became acquainted, and from very remote times it has been used for various instruments and utensils of domestic life. It is, after iron, of all metallic bodies the most generally useful in the arts, both in a state of purity and in combination with other bodies. It constitutes one of the most valuable and important products of the mines of the United Kingdom.

The appearance of pure copper is so familiar to every one as to need no description. With the exception of the rare metal titanium, it is the only metallic substance of a red colour. Its specific gravity is 8.89, or nearly nine times heavier than water; it is a little heavier than iron, and not quite so much so as silver. It can only be melted at a very high temperature, but is more fusible than iron; it may be beat into thin leaves, and, next to iron, possesses the greatest tenacity of all the metals, for a wire one eight-hundredth part of an inch in thickness will support a weight of three hundred and two pounds without breaking. Its hardness is greater than that of either gold or silver; it is the most sonorous of all metals, and is therefore used for making cymbals, many wind instruments, and bells. It is capable of forming alloys with other metals, but in that combination remarkable changes sometimes take place. Thus, when alloyed with tin, which is also a ductile metal, the mixture (bell-metal) is quite brittle: on the other hand when united with zinc, which is a brittle metal, the mixture (brass) is nearly as ductile as the pure copper.

Ores of this metal.—Copper is found in a state of purity, or that form which mineralogists call *native copper*, and also in combination with other mineral substances, constituting a great variety of ores. These may be divided into two great classes: in the one, the copper is combined with sulphur and other metals in various proportions, or with oxygen; in the other class it is in the state of an oxide combined with acids and with water. The following tables show the great variety of composition which is to be found in the ores of this metal. They exhibit the results of analysis by different chemical philosophers, omitting, however, the more minute fractional parts. The figures express the number of grains of the substance at the head of the column which are contained in a hundred grains of the ore.

	Copper.	Sulphur.	Iron.	Arsenic.	Antimony.	Oxygen.
Yellow Copper Ore	30	35	32	..	..	..
Purple do.	61	24	14	..	..	..
Vitreous do.	81	19	..	..	..	..
Gray do.	53	24	23	..	..	..
Arsenical Gray do.	43	10	28	15	..	..
Antimonial do. do.	38	28	3	..	22	..
Red Oxide of Copper	91	..	..	..	..	9

	Oxide of Copper.	Water.	Sulphuric Acid.	Muriatic Acid.	Phosphoric Acid.	Arsenic Acid.	Carbonic Acid.
Blue Carbonate of Copper	69	5	..	..	..	..	26
Green ditto	72	9	..	..	..	..	19
Sulphate of Copper	33	36	31	..	..	..	..
Muriate of do.	73	17	..	10	..	..	..
Phosphate of do.	69	..	..	..	31	..	..
Arseniate of do.	49	35	..	..	..	14	..

Native copper is of common occurrence, but seldom in large quantities together in one spot. The finest specimens for museums are brought from the mines of Siberia, on the eastern side of the Oural Mountains, from Hungary, and Saxony, and very good specimens are occasionally met with in Cornwall. It is found in considerable quantity in Brazil, and also in Japan, and it is obtained rather abundantly in the vicinity of the Copper Mine River in North America. Masses of it have been found in Canada of more than two hundred pounds weight.

More than nine-tenths of the copper of commerce is obtained from those ores in which the metal is combined with sulphur and iron, and the yellow copper ore is the most abundant of these. The other combinations of the metal frequently accompany the sulphurets, but

are rarely found in sufficient quantity to be smelted by themselves. The quantity of copper contained in the sulphurets is very variable, on account of the intermixture of stony and other foreign ingredients, and an assay of the ore can alone determine its value. In some mines the ore does not contain above 3 per cent. of pure copper, and yet it pays for working. The poorer kinds of ore are chiefly sulphurets of iron, or iron-pyrites, containing copper; while the richer kinds are sulphurets of copper, or copper-pyrites, mixed with iron and arsenic in different proportions.

A considerable quantity of copper is obtained from springs containing sulphate of copper, or blue vitriol, in solution, which are frequent in copper mines, or in hills where the sulphuret occurs, the decomposition of the ore by the action of the air and of water changing the sulphur into sulphuric acid, which enters into a new combination with the metal. The copper is obtained by immersing plates of old iron in the fluid: the acid having a stronger attraction for iron than for copper, quits the latter and combines with the iron, leaving the metallic copper on the surface of the iron plates, and it is then scraped off. This process may be easily seen by dissolving a little blue vitriol in water, and if the blade of a table-knife be dipped in the solution, in the course of a few minutes it will have a bright coating of metallic copper. This is one of the most ready and correct tests for discovering if any of our food be poisoned with copper, which sometimes happens if fatty substances or acids be allowed to stand in a copper vessel not properly tinned.

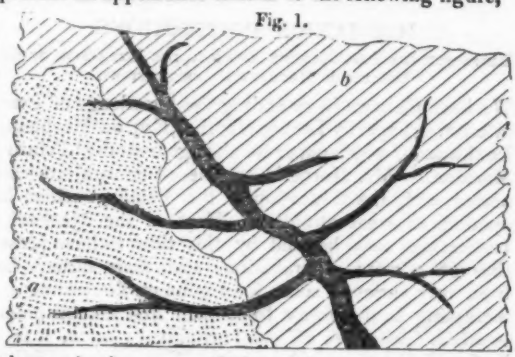
A variety of the green carbonate of copper, called malachite by mineralogists and jewellers, is used for ornamental purposes; it is bright green and opaque, and is found in solid rounded masses. When these are cut through, they have a waved and silky appearance with a great variety of tints, from dark to pale green; the structure very much resembling that of the calcareous deposits from petrifying springs, called stalagmites. The finest specimens of malachite come from Siberia, from a mine not far from Ekaterinbourg; and masses have been found of such dimensions as to afford slabs for tables. There was some time ago in a museum at St. Petersburgh a slab thirty-two inches long, seventeen broad, and an inch thick, which was valued according to Patrin at 20,000 francs, or about 800*l*. When set in chased gold it has a rich and beautiful effect in necklaces and earrings. Vessels are sometimes brought from China made of what is called white copper, which sells in China, when manufactured into utensils, for about one-fourth of its weight in silver. It has been analyzed by Dr. Fyffe, who found it to be a mixture or alloy of copper, zinc, and the rare metal nickel, in the following proportions:—

Copper	40.4
Zinc	25.4
Nickel	31.6
Iron	2.6
	100

Geological situation of Copper.—The great deposits of this metal occur in the older rocks, both in the sedimentary strata and in the unstratified rocks, which are generally considered to be of igneous origin, that is, granites, porphyries, and traps; and it has been met with in minute quantity in the lava of existing volcanos. Cornwall, which is the greatest copper country in the world, is composed entirely of rocks of the primary or oldest transition classes, chiefly slate associated with granite and porphyry. The slate is called *killas* in the country, the granite *growan*, and the name *elvan*, although more particularly given to porphyry, is applied also to any other rock which is found in the killas or granite; so that a fine-grained granite is often called elvan, if it traverse the ordinary granite of the country.

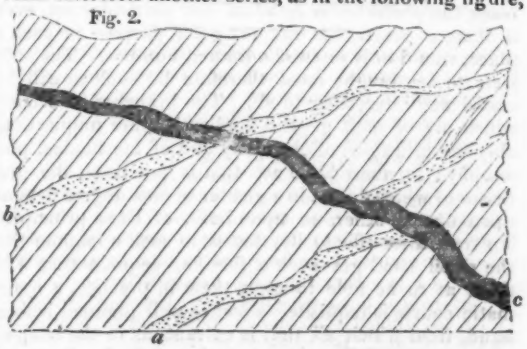
The copper ore is found in veins composed of a mixture of the ore with quartz or fluor spar, or both, which occur for the most part in the killas, generally a greenish argillaceous slate, and veins which have been worked in the killas have been often followed into the granite, without any change in their magnitude, richness, or general composition, although for the most part a change takes place in the quality of the vein when it passes from one rock into another. Mineral *veins*, although called by that name from the resemblance of their ramified forms to the veins of the human body, do not occur like these in any distinct systematic arrangement, but with the irregularity and arbitrary dispersion of chance cracks in a hard body when fractured, the cracks being afterwards filled up by a new substance injected into them. If we suppose a vertical section to be made of a country composed partly of granite, and intersected by mineral veins, it would present an appearance similar to the following figure,

Fig. 1.



where *a* is the unstratified granite, and *b* the strata of slate, in which the continuity is broken by veins filled up with various minerals, different from either the slate or the granite. It is evident that the substance of the veins is of posterior formation to the rocks in which it is contained. It frequently happens that one series of veins intersects another series, as in the following figure,

Fig. 2.



where the vein *c* has evidently been formed after *a* and *b*, because it intersects them, and the disturbing force which produced the rent that was afterwards filled by the matter of the vein *c*, was such as to throw the vein *a* off its continuous course, for the lower portion is at an inferior level to that portion which is above the vein *c*. Evidence of the same disturbance is indicated by the changes in the stratification of the slate, which are not attempted to be shown in the diagram, as it would be difficult to represent such complicated disturbances as usually appear on such occasions.

The courses of mineral veins are extremely irregular, and their phenomena are complicated in the extreme. Hence the hazardous and deceptive nature of mining adventures. The theory of the formation of mineral veins, whether as to the causes which produced the rents, or to the manner in which these rents were afterwards filled up, is involved in the greatest difficulty.

That the greater part of them were filled by the injection of melted matter from the interior of the earth, is now the prevailing opinion of geologists,—but there are many appearances in veins which cannot be accounted for on that hypothesis.

Copper ore is also found in the carboniferous or mountain limestone, as in Staffordsnire, (O, diagram 1, No. 51,) but very sparingly, considering the great extent of that formation. In England none of the superior strata contain more than occasional traces of copper ores, but in Germany there are beds of what is there termed *kupferschiefer*, or copper slate, which occupy the same position in the order of stratification as the red marl, K, of the series of sedimentary deposits in England, and from that slate a considerable quantity of copper is obtained.

[In our next Section we shall give some account of Copper Mines.]

MECHANICS' INSTITUTIONS.

HINTS FOR THE IMPROVEMENT AND FOR THE EXTENSION OF THE UTILITY OF MECHANICS' INSTITUTIONS.

WE have pleasure in extending the knowledge of a very interesting paper by Leonard Horner, Esq. on 'Mechanics' Institutions,' which paper we abridge from the 'Printing Machine.' Mr. Horner's experience in subjects connected with the Education of the People, entitles his opinions to great attention. Most of the Mechanics' Institutions may be said by this time to have passed through a state of probation, and their success has been very various: some have gone on flourishing and increasing in usefulness from their first establishment —others have fallen off and languished; some, it is to be feared, have ceased to exist. The causes of failure have, no doubt, also been various; the difficulty of finding good lecturers has been one great source of want of success, but more, perhaps, is to be ascribed to defects in the scheme of instruction.

The audience of a Mechanics' Institution being composed of persons following a great variety of trades, to teach the processes in detail of any particular art, even if it were practicable for any good purpose in such a place, would only interest a limited number. The subjects to be taught must therefore be such as will be useful and interesting to all. The branches of *science* which are of most general application, are unquestionably the principles of chemistry and of mechanical philosophy; for there is no art that is practised, the processes of which do not in a greater or less degree depend upon one or other, or upon both, of these principles. To treat these effectually, that is, in such a manner that the pupil shall get such a familiar acquaintance with them as to be able to apply them in practice, a systematic course is requisite—a course well planned beforehand, from which all that is extraneous to the purpose has been carefully rejected, and in which all that is most important is fully dwelt upon. The lecturer must duly consider the capacities of his audience as recipients of what he is teaching,—not as regards their natural abilities, but their previous preparation. He must recollect that they are not like students at a college, whose sole occupation it is to learn, but persons who have spent a long day in, it may be, a laborious and exhausting employment, and with few advantages for private study: to use a colloquial expression, he must be careful not to shoot over the heads of his hearers. The lecturer must be no less on his guard against being led into the more abstruse and difficult parts of his subject by an ambition to exhibit at the conclusion of his course some distinguished pupils who, in prize exercises, may display extraordinary acquirements; for while these few would be following him, the majority would inevitably be lost, and be very likely to be thus driven to inattention by despair: his true ambition should be to turn out the largest possible number thoroughly conversant with that which may be acquired by average talents and reasonable attention. The student, on the other hand, must recollect that, as there is no royal road, so likewise is there no mechanic's road to knowledge; that before he can get a fast hold of the information he is in search of, he must work long, patiently, and systematically. If college lectures do comparatively little good without frequent examinations and repetitions, such a practice is doubly necessary in a Mechanics' Institution. They must be conducted, however, in such a manner as not to alarm the timid, and should be as much as possible in the style of conversation between the lecturer and his pupils, trying to elicit whether he has been rightly understood. This, with the repetition of the more important experiments, will give an ample opportunity of setting in a clear point of view and of forcibly impressing all that is most difficult of apprehension. To teach the general principles of chemistry with that copiousness of illustration by experiments which shall be most likely to fix them in the mind of the student, a continuous course of not less than thirty lectures is necessary; nor will the student have acquired a thorough acquaintance with them until he has twice gone over such a course,—reading, at the same time, a good elementary treatise. Neither can the principles of mechanical philosophy be properly explained in a course of shorter duration; and the student, before he can comprehend them, must have acquired a competent knowledge of arithmetic, algebra, and geometry. There is no shorter way: it is vain to expect that accurate knowledge in either branch can be purchased at a less cost of time and study; and without an acquaintance with algebra and geometry, the most useful works on mechanical philosophy must be unintelligible. But, *under a judicious system*, there is nothing to prevent a mechanic from acquiring the knowledge here spoken of, although he be daily occupied in his trade,—taking into account, also, the very limited portion of time he has at his disposal, and the other disadvantages he labours under, when compared with a young man occupied only with his education.

It must be farther remembered, that in all seminaries of instruction, unless the pupil have some object set before him which is to be the reward of successful exertion, even the well-disposed will grow languid, and sink into indifference. The number of those who toil from the mere love of learning, is small indeed. Had it not been for the high prizes which were to be won in schools and universities, science and learning would have advanced at a much slower pace than they have done. In the universities, the students are excited to labour by the degree which is to be conferred upon them, if found competent, at the close of their academical career,—an honour merely to many, but a substantial benefit to most, in their future professional prospects. Now, until something analogous to degrees be established in Mechanics' Institutions—until some winning-post at the end of the course be set up before the eyes of the student, the severer studies will never go on with alacrity, and one of the most important objects of such schools will thus fail to be accomplished. Nor will such a result argue any particular want of zeal or of capacity for such knowledge on the part of the mechanic; it will only prove that those stimulants to exertion have been wanting which all experience has shown to be necessary in order to overcome the *vis inertiæ* which obstructs the progress and limits the usefulness of the greater portion of mankind.

The School of Arts, or Mechanics' Institution of Edinburgh, was founded thirteen years ago, "for the instruction of mechanics in such branches of physical

science as are of practical application in their several trades," and has confined itself almost exclusively to that object to the present day. I took an active part in its first establishment, and have never ceased to take an interest in its progress. Two years ago, the number of students, though considerable (above 200), had materially diminished; and although that falling off could fairly be ascribed, in a great degree, to circumstances independent of the management of the institution, yet it appeared to me that something was wanting to excite a sustained and lively interest in what was going on in the lecture-rooms; and I submitted to the Directors a plan which seemed to me calculated to remedy that defect. It met with their approbation, and was adopted; and although this is only the second year in which it has been in operation, there is every appearance of its being attended with the most beneficial results. The course of instruction is as follows:—

I. There is a junior class of Mathematics, which meets twice a week, and in which the following branches are taught:—

Arithmetic, including Vulgar and Decimal Fractions;

Algebra, as far as Simple and Quadratic Equations;

Geometry, first and second books of Euclid.

In this class, a portion of each hour of teaching is devoted to exercises and examinations.

II. There is a senior class of Mathematics, which meets once a week, in which the following branches are taught:—

Geometry, the remaining books of Euclid;

Logarithms;

Mensuration and Trigonometry, with their various practical applications.

In this class also a portion of each hour of teaching is devoted to exercises and examinations.

III. There is a class of Natural Philosophy, illustrated by experiments, which meets once a week, and in which the following branches are taught:—

Mechanics, including Statics and Dynamics;

Hydrostatics, Hydraulics, Pneumatics, and Optics, with such additional matter as time may permit of.

A part of every fourth Lecture of this course is devoted to examinations on the subjects treated of in the three preceding Lectures.

IV. There is a class of Chemistry, in which the principles of the science are taught, together with their application in the chief arts and manufactures in the processes of which chemical principles are involved. This class meets once a week, and a part of every fourth Lecture of this course also is devoted to examinations upon the subjects of the three preceding Lectures.

V. The winter session is from the 1st of October to the 30th of April, such part of the month of April being devoted to examinations as the Directors may find necessary. The fee for each of the four classes abovementioned separately, the Junior Mathematics, the Senior Mathematics, the Natural Philosophy, and the Chemistry, is five shillings. A ticket which gives admission to all the Lectures is 12*s*. The privileges of the library are extended to all students, whether attending one or more classes.

It is left optional to the students generally to attend all or any of the above classes; but in order to lead them to a systematic course of study, and to excite them to perseverance in it, the reward is held out of their being admissible as MEMBERS OF THE SCHOOL OF ARTS for life, and of thereby becoming entitled to free admission to all the lectures, and, for a very small fee, to the use of the library. Before, however, this honourable distinction can be conferred, the student is required to go through the following course:—

During the *first* year, he must attend the junior Mathematical class alone.

During the *second* year, he must attend the senior Mathematical and the Chemistry classes; and

During the *third* year, he must attend the Natural Philosophy and the Chemistry classes.

At the conclusion of the session there is an examination of the students of each class, conducted by the lecturer, in the presence of at least two Directors, or other competent judges named by them; and all those students who are found to possess a fair knowledge of the subject taught in the class, will receive an *attestation of proficiency* therein.

Every student, who at the conclusion of three years' attendance shall be able to produce *attestations of proficiency* from all the classes in the course of study already mentioned, shall receive a certificate, signed by the lecturers and two of the Directors, which shall declare that the person to whom it is granted has received a regular education at the EDINBURGH SCHOOL OF ARTS, in Arithmetic, Algebra, Geometry, the principles of Natural Philosophy and Chemistry, during three years' attendance; and that he has been found, upon examination, to possess a competent knowledge of all these branches.

The possession of such a document as this certificate cannot fail to be of great value to a young man in after life; it will be the strongest evidence that he has passed his leisure hours for three years industriously and usefully, and is therefore of a well-disposed mind; and it must be a powerful recommendation in his favour on any future occasion of his applying for a situation in a business in which an accurate knowledge of such branches of science is desirable.

It will greatly extend the usefulness of mechanics' institutions if a reading-room be attached. It must frequently happen that students belonging to them have no comfortable quiet room at home to which they can retire to study; and undisturbed quiet is especially necessary to persons in their circumstances, if the subject of the book they are reading require close attention. There is no obstacle to advancement so seriously felt by that class of persons as the want of good dictionaries and other books of reference, generally far too expensive for private acquisition; and such a reading-room, under proper arrangements, might be made to afford great facilities in this way. Besides, there are in the libraries of most mechanics' institutions large and expensive works, maps, plans, &c., which cannot be lent out, and therefore as extensive opportunities as possible should be afforded for consulting them. A reading-room well furnished, warmed and lighted, provided with some of the most useful periodicals, dictionaries, gazetteers, maps, &c., and open from six or seven to ten every evening, would be a very attractive place, and would prove of the greatest value to many. It would probably be found necessary to limit the admission to the students of the current year only, in order to prevent overcrowding. To preserve consistency in the objects of such a place, it would be indispensable to exclude newspapers: these must be read elsewhere.

OLD TRAVELLERS.—BUSBEQUIUS.—No. I.

THIS excellent traveller, who has left us an eloquent account of Constantinople and Turkey at a period when the Ottoman Empire was at its highest pitch of power and splendour, was, like Father Rubruquis, a native of the Low Countries. He was born at Commines, a town on the river Lis, in the year 1522. He was the illegitimate son of a man of rank. His real name was Busbec, which, according to the fashion of his country and times, was latinized into Busbequius, the appellation under which he is invariably known in literature. His father, it appears, was too proud to marry a woman of inferior condition, but he brought up her child in his own house

with extreme care, sparing no expense on his education. Young Busbec's progress was very rapid, and his talents and disposition were so promising, that his father was induced to apply to his sovereign, the Emperor Charles V., for a rescript of legitimacy, which act was obtained in the usual manner by money.

Busbequius was sent to study successively at Louvain, Paris, Venice, Bologna, and Padua, which then boasted the best schools and universities on the continent. Having finished his studies, he visited London, where he passed some time with Don Pedro Lasso, ambassador at the English court from Ferdinand, who was then titular King of the Romans, but afterwards Ferdinand I., Emperor of Germany, &c. After being present in the train of his Excellency Don Pedro at the solemnization of the ill-augured marriage between Philip II. of Spain and our Queen Mary (on the 25th of July, 1554), he returned to Flanders with increased knowledge and experience of public affairs. His reputation indeed stood so high, and his friends at court were so influential, that a few months after his return from England he was selected for a difficult and most critical mission to the Turks, who had conquered a great part of Hungary, and spread terror and consternation even to the gates of Vienna. Busbequius was staying at Lisle when, on the 3rd of November, 1554, he unexpectedly received a letter from King Ferdinand, summoning him instantly to Vienna. Paying a hurried visit to the paternal estate, to take leave of his father and friends, he repaired to Brussels, where he met his friend Don Pedro Lasso, "who," he says, "spurred me on to the journey, showing me the king's letters to him (Don Pedro) too, commanding him to press me forward: so that I immediately took horse, and made what haste I could to Vienna."

Our diplomatic couriers, and other hurried travellers, who can now fly with such comfortable speed from one end of Europe to the other in an easy carriage, finding regular relays of post-horses wherever they go, and nearly everywhere, except in parts of Spain and Portugal, good roads and excellent accommodations, would shrink from such a journey as the refined and hitherto literary and sedentary Busbequius had to perform, 280 years ago, in the middle of winter. He says—"My journey from Brussels to Vienna was very troublesome, both by reason of my unaccustomedness to ride upon such inconvenient horses as I could then get, and also because the season of the year was not fit for travelling, the weather being tempestuous, the roads deep and muddy, and the days short; so that I was forced to borrow a great part of the night, and to pass through unfrequented ways in the dark, not without the greatest hazard of my life."

Having received the instructions of King Ferdinand, Busbequius prepared in all haste for his embassy. Before starting, however, at Ferdinand's desire he rode to Comora to consult with one Malvezius who had been long resident at Constantinople, and who was supposed to be well acquainted with the character, dispositions, manners, and customs of the Turks, as well as with their diplomatic craft and political intrigues. Poor Malvezius was dying at the time of a malady he had contracted during a two years' confinement in the Seven Towers, a horrible state prison at the southern corner of Constantinople, into which the Turks were accustomed *then*, and indeed down to our own days, to cast the ambassadors of Christian powers on any provocation. Notwithstanding his sufferings, the unfortunate envoy calmly instructed his successor, and during two days that Busbequius passed with him, he was cautioned and armed against the impositions and violence of the crafty and captious Turks, and instructed as to what he was to do and say, and what to avoid in his intercourse with them.

Whereupon," continues Busbequius, "I posted back to Vienna, and began with great application and diligence, to prepare necessaries for my journey. But such was the flush of business, and so little the time allowed to despatch it, that when the day fixed for my departure came, though the King did earnestly press me forward, and I had been extremely busy all the day in equipping myself, and in causing bag and baggage to be packed up, even from the fourth watch, yet it was the first watch of the following night before I could be quite ready; but then the gates of Vienna, which at that time of the night used to be shut, were opened on purpose for me."

In those days he had not far to travel before he came in contact with the Turks, whose advanced posts pressed closely upon the Austrian frontier. The day after his departure from Vienna was lost by waiting at Comora for an experienced Hungarian, who was to accompany him; but on the third day, after having crossed the river Vaga, and travelled three hours in a vast plain, he saw afar off four Turkish horse-soldiers advancing to meet him. At this sight the sixteen Hungarian hussars that escorted him were halted and sent to the right-about, lest, coming in contact with the Mussulmans, "some troublesome bickerings should have happened between them."

Being joined by the four Turks, Busbequius went on his journey. He had not proceeded far, when, on descending into a low valley, he saw himself suddenly surrounded by a party of about 150 horse. He seems to have been startled at the unexpected appearance of such a force, which, however, was only intended as an honourable escort. His description of this eastern cavalry is lively and picturesque.

"It was a very pleasant spectacle," he says, "to a man like me, unaccustomed to see such sights, for their bucklers and spears were curiously painted, their sword-handles bedecked with jewels, their plumes of feathers parti-coloured, and the coverings of their heads being twisted linen (*turbans*) as white as snow. Their apparel was purple-coloured, or at least a dark-blue; they rode upon stately mettlesome steeds, that were caparisoned with most beautiful trappings."

These troops conducted him with much civility to the castle of Gran, which was situated on a hill above the Danube, and garrisoned by the Turks. The Hungarian city of Gran lay in the plain beneath the hill. Here Busbequius says he was entertained "not after a courtly, but after a military manner." At night the Turks spread coarse shaggy rugs upon hard boards as beds for his attendants, and there were no sheets or coverlets; "but as for myself," he adds, "I fared better, for my bed was carried along with me wheresoever I went."

The next day the Turkish governor, with all his retinue and a large body of horse, accompanied Busbequius some distance on his journey to Buda. "The cavalry," he says, "as soon as we came out of the gates, began to show me some sport,—curvetting and charging one another. They also threw their bonnets on the ground, and, galloping their horses with full speed by them, they took them up on the points of their spears; and many more such active pranks did they perform. Amongst the rest of them there was a Tartar, who had thick bushy hair hanging down over his shoulders: they told me he always went bareheaded, and would never have any other defence for his head, either against the inclemency of the weather or the hazards of battle, than his own hair." This man was probably one of the set called *Delhis* (literally, "madmen") who were the desperadoes and fanatics of the Turkish army, and whose courage, or blind fury, and self-devotion to the prophet, were generally kept alive by copious doses of opium. Until very recently,

no Turkish forces ever took the field without having a number of these madmen in their van. Upon his arrival at Buda, the pasha sent an officer to compliment *him*, and to inform him that a grievous malady prevented the pasha from receiving him at present.

On making inquiries, Busbequius found the prevailing opinion was, that the pasha's malady was grief, arising out of the loss of a great sum of money which had been stolen from the place where (in Turkish fashion) he had buried it. However this may have been, as soon as the pasha learned that the ambassador had with him one "Master William Quackelben, a great philosopher, and an excellent physician to boot," he entreated Busbequius to send him the practitioner that he might give him some physic. The ambassador immediately complied; but he soon began heartily to repent of the transaction. The pasha, instead of growing better after the doctor's visit, grew worse and worse,—and at last there seemed no hope of his ever recovering. Had the great man died, the Turks would have laid his death at the door of the physician, whose life under such circumstances would not have been worth much, whilst Busbequius himself would have been exposed to suspicion as an accomplice; but, luckily for all parties, after many days of anxiety and fear, the pasha was restored to health.

It was at Buda that our ambassador first got sight of the redoubtable Janizaries, who were at that time the most numerous and altogether the best-disciplined body of infantry in the world. Busbequius compares them to the Prætorian guard of ancient Rome. He says,—"Their dress is a long garment down to their ancles; upon their heads they wear the sleeve of a coat or cloak—the head is put into part of it, and the rest of the sleeve hangs down behind, flapping upon their shoulders; in the front of it there rises a silver cone, somewhat long, gilt over, and enwroughted with jewels of an ordinary quality. These Janizaries usually came to pay me visits by couples. When they were admitted into my dining-room, they bowed down their heads and made obeisance, and presently they ran hastily to me, and touched either my garment or my hand as if they would have kissed it, and then forced upon me a bundle or nosegay of hyacinths or narcissuses, and then presently retired backward with equal speed to the door, that so they might not turn their backs to me (for that is accounted indecent by the rules of their order). When they reached the door, there they stood, with a great modesty and silence, with their hands upon their breasts, and fixing their eyes upon the ground, so that they seemed more like monks than soldiers. But when I had given them some cash (which was what they came for), they bowed their heads again, and, giving me thanks with a loud voice, wished me all happiness, and departed. The truth is, unless I had been told before what they were, I should have taken them for a kind of Turkish monks, or fellows of some college or other amongst them. Yet these are the Janizaries that carry such a terror with them wheresoever they come."

When Busbequius compared the Janizaries to monks he was probably not aware how many truly monastic features were included in the original institution of that powerful corps. At their first establishment, in the reign of Amurath I., the Janizaries were wholly composed of Christian youths, the children of the conquered or captured, who were taken when young, brought up most carefully in the Mohammedan faith, and educated to the use of arms. This new militia was consecrated and named by Hadji-Bektash, a celebrated dervish or Turkish monk, who stretched the *broad sleeve* of his robe over the heads of the principal officers, loading them with blessings, and promising them, in the name of Allah and Mahomet, a most brilliant series of conquests and success, and called them *Yeni-tcheri*, which means "The new troop." For these reasons the Janizaries ever afterwards adopted the surname of *Bektashis*, considered the dervish in the light of their patron saint, and adopted the sleeve of his robe in their uniform. They lived together in odas, or companies, having nearly everything in common, like some of the orders of the Catholic monks, and like monks they were, by the original laws of their incorporation, condemned to a life of celibacy. In after years these severe laws were set aside—they ceased to be recruited by Christian youths—one by one nearly all their original institutions were departed from,—and finally, the body the dervish had blessed, instead of being the best disciplined and bravest of troops, became the most turbulent, unwarlike, and contemptible, which they certainly were when the reigning Sultan Mahmoud effected his horrible destruction of them some ten years ago. But at the time of our traveller their discipline was at its most perfect stage, and their organization had very recently been revised and invigorated by Solyman the Great, who was perhaps, on the whole, the most energetic and severe of all the Turkish Sultans. At the end of his journey, when Busbequius was admitted in state to an audience of the great Solyman, he gives the following additional and graphic description:—

"It was all hush; not so much as a word spoken among them all—no humming noise as among our multitudes—no jostling one another,—but every particular man quietly keeping his own station. * * * * * Among the rest I most admired the Janizaries. Though there were several thousands of them, yet they stood at a distance one from another, silent and motionless,—stock still, as we say, as if they had been statues; so that I, who was at some distance from them, at first thought verily they had been statues, till being told to salute them, as the custom is, I saw them all bow their heads at once, by way of re-salutation unto me."

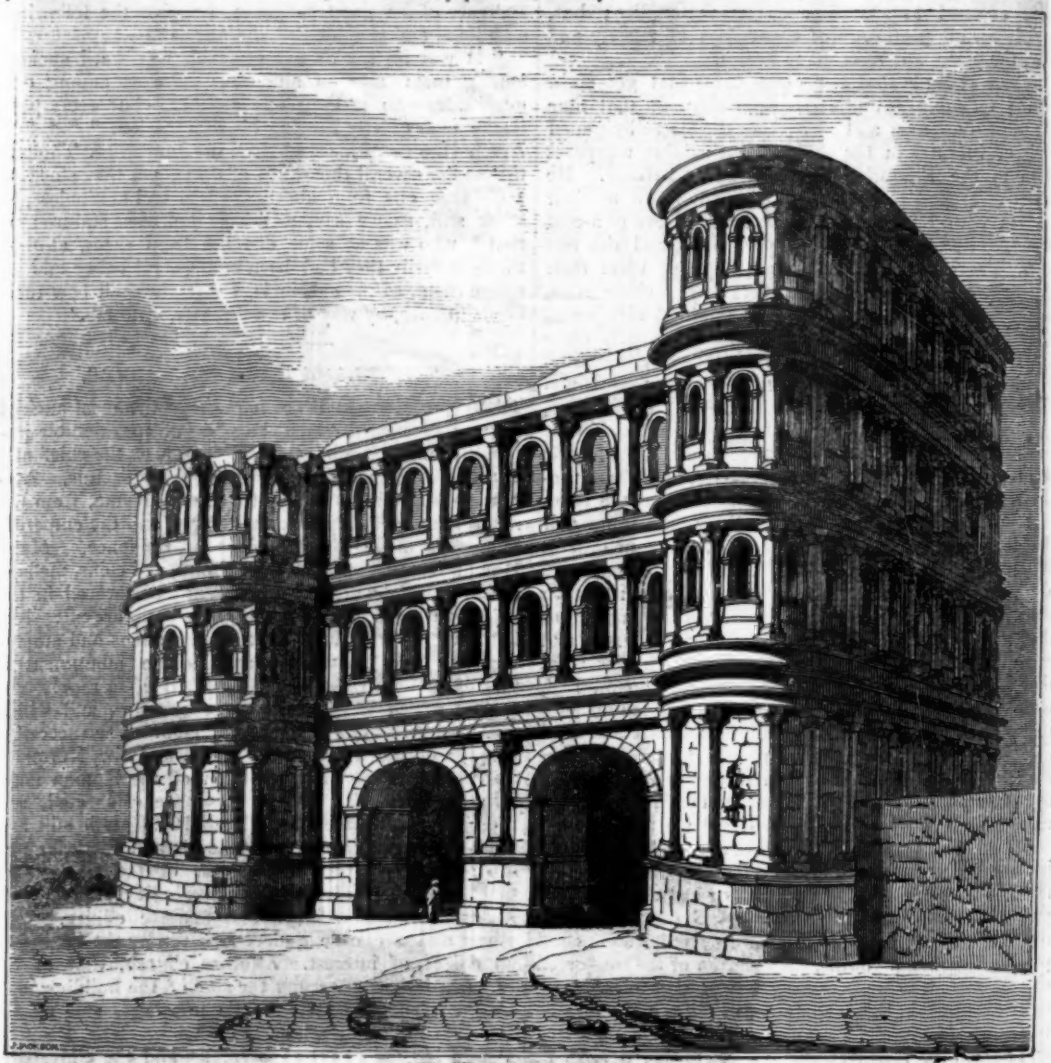
THE BLACK GATE OF TREVES.

Treves, in German *Trier*, is perhaps the most ancient town of Germany. It was a place of considerable importance in the time of Julius Cæsar, as the chief city of the Treviri, and is often alluded to by Tacitus. Ammianus Marcellinus called it a second Rome, from the magnificence of its public buildings; and the emperors frequently made it their place of residence. Many Roman remains are still to be found, and coins, medals, and inscriptions are not unfrequently discovered in the neighbourhood. The remains of the baths are extensive; but scarcely any traces exist of the circus and amphitheatre. The most important Roman monument is that of the arch called the "Black Gate," a representation of which is given in the engraving, and which appears never to have been completed. The successive ravages of the Huns, the Franks, and the Normans, did much towards the destruction of the Roman magnificence for which Treves was once celebrated, and time has effected the rest. The Black Gate is still in a good state of preservation. The piers of the bridge on the Moselle are the work either of the Romans or Gauls. The Cathedral of St. Peter, built on the only hill in the town, is a large and massive edifice. The altars and a marble gallery also render the Cathedral an object of interest. Another church, that of St. Simeon, is said to occupy the site of the building used by the Gauls for their public meetings, and by the Romans for a capitol, or town-house. The Elector's Palace is converted into barracks, and the University, established in 1454, has been changed into a Gymnasium. The Public Library contains about 70,000 volumes, and there is a society established in the place which possesses a good collection of antiquities and natural curiosities. There is some trade carried on in

wine, grain, and wood; and in the environs are to be found indications of iron, copper, lead, and silver.

It is said that the Christian faith was introduced at Treves during the life of St. Peter, and that one of the seventy-two disciples was its first bishop. The date at which it was erected into an archbishopric is disputed. Some accounts say that Pope John conferred this dignity in 969. Soon after this period, the archbishops exercised all the authority of sovereign princes, and this ecclesiastical government continued for several centuries, the archbishops nominating the magistrates, fixing the taxes, and keeping the keys of the city. The archbishops were likewise electors of the German empire, and consequently possessed of high political privileges. The pretensions of their ecclesiastical governors were often opposed by the inhabitants of Treves, and the Emperors occasionally interfered in these disputes, and obtained the concession of a few privileges for the struggling people; but in 1569 it was besieged by one of the archbishops, who raised the siege on condition of being allowed to re-enter the town with his troops. In 1585, in consequence of a decree of the electors, it was fully placed under the power of its archbishop, and was compelled to endure additional ecclesiastical burdens. In 1681 Treves was taken by the French; and in 1703, 1705, and 1734 they again rendered themselves masters of it. On the 8th of August, 1794, it once more fell into the power of the French, who made it the chief town of the department of the Sarre. The electorate was suppressed, and during the time that it was under the administration of France, the convents and monasteries were placed under due regulation, and encouragement was afforded to the manufactures of the place, consisting of woollens, cottons, and leather. Since the Peace of Paris, Treves has been transferred to the dominion of Prussia, and is now the capital of a government of the same name on the Lower Rhine. The number of inhabitants in Treves is under 10,000.

Treves is situated in the centre of a large valley, lying open to the north-west and south-east, but confined on the other side by gentle eminences covered with vines. The Moselle runs past the town, the environs of which abound in gardens delightfully situated, and command landscapes of almost unequalled beauty.



[The Black Gate at Treves.]

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